

INTERNET COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT**NOTIFICATION OF ELECTION**

(PCT Rule 61.2)

To:

Commissioner
 US Department of Commerce
 United States Patent and Trademark
 Office, PCT
 2011 South Clark Place Room
 CP2/5C24
 Arlington, VA 22202
 ETATS-UNIS D'AMERIQUE
 in its capacity as elected Office

Date of mailing (day/month/year) 13 November 2000 (13.11.00)	
International application No. PCT/IB00/00419	Applicant's or agent's file reference P.HESSLER 1-
International filing date (day/month/year) 28 March 2000 (28.03.00)	Priority date (day/month/year) 29 March 1999 (29.03.99)
Applicant HESSLER, Peter et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

28 August 2000 (28.08.00)

☐ in a notice effecting later election filed with the International Bureau on:
2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer S. Mafla Telephone No.: (41-22) 338.83.38
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PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference P. HESSLER 1-	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/IB 00/ 00419	International filing date (day/month/year) 28/03/2000	(Earliest) Priority Date (day/month/year) 29/03/1999
Applicant LUCENT TECHNOLOGIES INC et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :



contained in the international application in written form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.



as suggested by the applicant.



because the applicant failed to suggest a figure.



because this figure better characterizes the invention.

3


None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/00/00419

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 H04J3/06 H04J3/14

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, PAJ, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>"REC.: EN 300 417-1-1 v.1.1.2 (1998-11)" , EUROPEAN TELECOMMUNICATIONS STANDARDS - INSTITUTE (ETSI), SOPHIA ANTIPOLIS, FRANCE XP002112909 cited in the application page 97, line 1 -page 98, line 15; figure A.1 page 99, line 1 -page 101, line 24; figure B.1 page 104, paragraph 3 --- -/--</p>	<p>1-5,7,8, 14-19,21</p>

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

21 July 2000

Date of mailing of the international search report

28/07/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
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Authorized officer

Roldán Andrade, J

INTERNATIONAL SEARCH REPORT

International Application No

PCT/92/00/00419

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>"REC.: EN 300 417-4-1 v.1.1.2 (1998-11)" , EUROPEAN TELECOMMUNICATIONS STANDARDS INSTITUTE (ETSI), SOPHIA ANTIPOLIS, FRANCE XP002112910 cited in the application page 16, line 1 - line 7 page 94, line 3 -page 95, line 4 page 96, line 1 -page 105, line 11; tables 51,52</p> <p>---</p>	1-8, 13-21
A	<p>WO 92 02999 A (TRANSWITCH CORP) 20 February 1992 (1992-02-20)</p> <p>page 2, line 19 -page 3, line 15 page 9, line 16 -page 10, line 17 page 11, line 31 -page 13, line 15; figure 7</p> <p>---</p>	1,4,5,7, 9-12,15, 17-19,21
A	<p>US 5 644 567 A (IKEDA YOSHIHISA) 1 July 1997 (1997-07-01) column 2, line 33 - line 40 column 9, line 50 -column 10, line 35; figure 3</p> <p>---</p>	1,9-13, 15,18
A	<p>"ITU-T. Rec. G.803 (06/97)" , INTERNATIONAL TELECOMMUNICATION UNION (ITU), GENEVE, SWITZERLAND XP002112911 page 8, line 5 -page 10, line 3; figures 6-1,6-2</p> <p>---</p>	1,15
A	<p>US 5 455 832 A (BOWMASTER THOMAS A) 3 October 1995 (1995-10-03) column 2, line 33 - line 44 column 5, line 19 - line 27 column 5, line 48 - line 50 column 7, line 8 - line 28 column 11, line 60 - line 63</p> <p>-----</p>	2,3,6, 16,17

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/00/00419

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9202999	A	20-02-1992	US 5142529 A	25-08-1992
			CA 2088156 A	28-01-1992
			DE 69131139 D	20-05-1999
			DE 69131139 T	09-12-1999
			EP 0559649 A	15-09-1993
			ES 2134779 T	16-10-1999
			US 5331641 A	19-07-1994
			US 5257261 A	26-10-1993
<hr/>				
US 5644567	A	01-07-1997	JP 8051406 A	20-02-1996
<hr/>				
US 5455832	A	03-10-1995	NONE	
<hr/>				

These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the PCT Applicant's Guide, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions respectively.

INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only.

What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

What documents must/may accompany the amendments?

Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
2. [Where originally there were 15 claims and after amendment of all claims there are 11]:
"Claims 1 to 15 replaced by amended claims 1 to 11."
3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
4. [Where various kinds of amendments are made]:
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

"Statement under article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

It must be in the language in which the international application is to be published.

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

Consequence if a demand for international preliminary examination has already been filed

If, at the time of filing any amendments under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the same time of filing the amendments with the International Bureau, also file a copy of such amendments with the International Preliminary Examining Authority (see Rule 62.2(a), first sentence).

Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, where upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

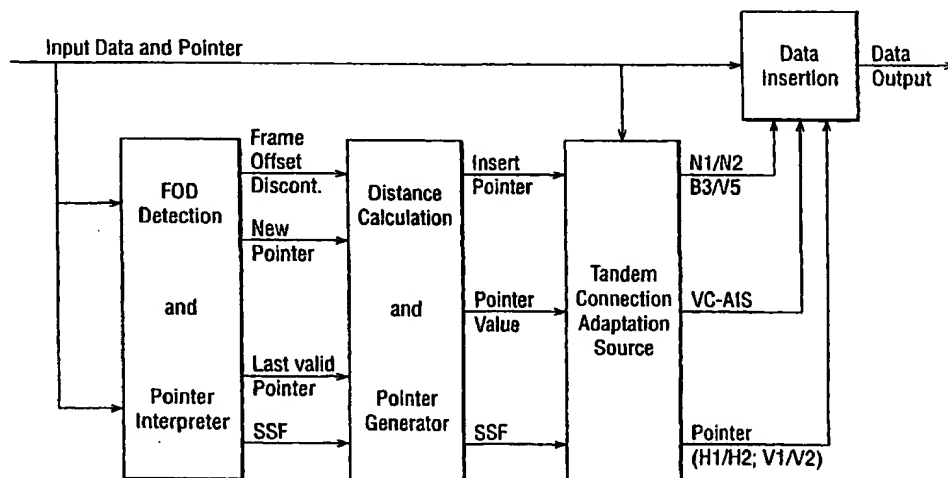
For further details on the requirements of each designated/elected Office, see Volume II of the PCT Applicant's Guide.



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁷ : H04J 3/06, 3/14		A1	(11) International Publication Number: WO 00/59144
			(43) International Publication Date: 5 October 2000 (05.10.00)
(21) International Application Number: PCT/IB00/00419 (22) International Filing Date: 28 March 2000 (28.03.00) (30) Priority Data: 99106363.7 29 March 1999 (29.03.99) EP (71) Applicant (for all designated States except US): LUCENT TECHNOLOGIES INC [US/US]; 600 Mountain Avenue, Murray Hill, NJ 07974-0636 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): <u>HESSLER, Peter</u> [DE/DE]; Bayernstrasse 37A, D-91052 Erlangen (DE). <u>LOEFFLER, Manfred, Alois</u> [DE/DE]; Im Krummen Gru 4, D-91338 Igensdorf (DE). <u>MILISTERFER, Jurgen, Leonhard</u> [DE/DE]; Frankenloster Strasse 10, D-90574 Rottal (DE). <u>VISSERS, Maarten, Petrus, Joseph</u> [NL/NL]; Simone de Beauvoir Laan 7, NL-1277 BE Huizen (NL). (74) Agents: WILLIAMS, David, J. et al.; Lucent Technologies UK Limited, 5 Mornington Road, Woodford Green, Essex IG8 0TU (GB).		(81) Designated States: AU, BR, CA, CN, ID, IN, JP, KR, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>	

(54) Title: DETECTION AND COMPENSATION OF INGRESSING FRAME OFFSET DISCONTINUITIES FOR TANDEM CONNECTION TRAILS



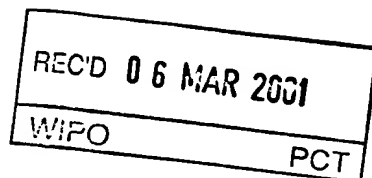
(57) Abstract

The invention relates to the detection and compensation of frame offset discontinuities for tandem connection trails in general and especially to frame offset discontinuities occurring at the entrance of a network element in a Synchronous Digital Hierarchy (SDH) and Synchronous Optical Network (SONET) system. It is an object of the invention therefore, to reduce the influence of frame offset discontinuities occurring at the beginning of a Tandem Connection Trail in a Synchronous Digital Hierarchy (SDH) or in a Synchronous Optical Network (SONET) System. This problem is solved by a method of transmitting data in a synchronous hierarchic network system comprising at least a path segment between a first network element (A) and at least a second network element (B) on which tandem connection monitoring (TC) method is established for monitoring transmission of information over said path segment. The method is characterised by detection of frame offset discontinuities at said first network element (A) on the basis of the detection of an alteration of the pointer value.

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav	TM	Turkmenistan
BF	Burkina Faso	GR	Greece		Republic of Macedonia	TR	Turkey
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BJ	Benin	IE	Ireland	MN	Mongolia	UA	Ukraine
BR	Brazil	IL	Israel	MR	Mauritania	UG	Uganda
BY	Belarus	IS	Iceland	MW	Malawi	US	United States of America
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CF	Central African Republic	JP	Japan	NE	Niger	VN	Viet Nam
CG	Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NO	Norway	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's	NZ	New Zealand		
CM	Cameroon		Republic of Korea	PL	Poland		
CN	China	KR	Republic of Korea	PT	Portugal		
CU	Cuba	KZ	Kazakstan	RO	Romania		
CZ	Czech Republic	LC	Saint Lucia	RU	Russian Federation		
DE	Germany	LI	Liechtenstein	SD	Sudan		
DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG	Singapore		



INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

7

Applicant's or agent's file reference P.HESSLER 1-1-1-3	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/IB00/00419	International filing date (day/month/year) 28/03/2000	Priority date (day/month/year) 29/03/1999
International Patent Classification (IPC) or national classification and IPC H04J3/06		
Applicant LUCENT TECHNOLOGIES INC et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 4 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 28/08/2000	Date of completion of this report 01.03.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Veaux, C Telephone No. +49 89 2399 8820 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/IB00/00419

I. Basis of the report

1. This report has been drawn on the basis of *(substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments (Rules 70.16 and 70.17).):*

Description, pages:

1-28 as originally filed

Claims, No.:

1-21 as originally filed

Drawings, sheets:

1/6-6/6 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/IB00/00419

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims 1-21
	No: Claims
Inventive step (IS)	Yes: Claims 1-21
	No: Claims
Industrial applicability (IA)	Yes: Claims 1-21
	No: Claims

2. Citations and explanations
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement

The invention relates to a method of transmitting data in a synchronous hierarchic network system (independent claim 1) and to a corresponding synchronous hierarchic network system (independent claim 15).

According to the claimed features of the independent claims, a tandem connection monitoring method is established over a path segment between two network elements based on detection of frame offset discontinuities at the first network element on the basis of an alteration of the pointer value.

The available prior art documents cited in the international search report, in particular EN 300 417-1-1 and EN 300 417-1-1, respectively acknowledged on pages 1 and 11 of the description, disclose the concepts of tandem connection and of frame offset discontinuity, however do not render obvious the interaction of the detection of a frame offset discontinuity situation and the correct management of a tandem connection.

They thus do not disclose or render obvious the combination of features of the independent claims and claim 1 and 15 fulfil the requirements of Article 33(2) and 33(3) PCT regarding novelty and inventive step.

Claims 2-14 and 16-21 are dependent on claims 1 or 15 and therefore also fulfil the requirements of Article 33(2) and (3) PCT.

VIII. Certain observations on the international application

The elements in brackets (A), (B) and (TC) appearing in the claims are not reference signs relating to features in the drawings.

The claims do not contain reference signs (Rule 6.2(b) PCT).